Application No.: 10/552,507 Amendment under 37 C.F.R. §1.111

Art Unit: 1793 Attorney Docket No.: 053128

AMENDMENTS TO THE SPECIFICATION

Please amend the specification as follows:

Amend paragraph beginning on page 4, line 14 to read as follows:

In the present invention, the alloy prepared by a rapid solidification process is used as a

starting material. This makes it possible to form an amorphous structure in the material without

segregation. This starting material is oxidized to preferentially or selectively oxidize Zr which is

one element of the Zr-Pd alloy, so that the element Pd in an amorphous state is aggregated to

form ultrafine particles consisting of the Pd, the metal M and one or more compounds thereof

and having a nanoparticle size of about 20 nm or less and clean hetero-phase boundaries without

segregation, and the ultrafine particles are dispersed in the parent phase of [[ZnO₂]] ZrO₂. Thus,

it is not desirable that the starting material exhibits crystalinity.

Please replace Table 1 on page 7 with amended Table 1 on the following page:

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Amendment under 37 C.F.R. §1.111 Attorney Docket No.: 053128 Application No.: 10/552,507 Art Unit: 1793

Table 1

		,		i abic i			
	Composition	Measurement	Hydrogen	Pd weight -	Pd weight -	Structure	Phase of
	of starting	temperature	storage	based	based		starting
	material	of hydrogen	amount of	hydrogen	hydrogen		material
	(at. %)	storage	entire	storage	desorption		
		characteristic	material	amount	amount		
		s	(wt. %)	(wt. %)	(wt. %)		
		(°C)					
Inventive	Zr ₆₅ Pd ₃₀ Ni ₅	150	0.71	2.30	1.21	Pd nanoparticles	amorphous
Example 1						+ZrO ₂	
Inventive	Zr ₆₅ Pd ₃₀ Ni ₅	50	0.78	2.51	1.57	Pd-Ni ally	amorphous
Example 2						nanoparticles +ZrO ₂	
Comparative	Zr ₆₅ Pd ₃₅	150	0.71	2.19	0.54	Pd nanoparticles	amorphous
Example 1						+ZrO ₂	
Comparative	Zr ₆₅ Pd ₃₅	50	0.84	2.58	1.33	Pd nanoparticles	amorphous
Example 2						+ZrO ₂	,
Comparative	Zr ₅₀ Pd ₅₀	150	0.45	0.95	0.32	Pd coarse particles	crystalline
Example 3						+ZrO ₂	
Comparative	Zr ₅₀ Pd ₅₀	50	0.59	1.26	0.61	Pd coarse particles	crystalline
Example 4						+ZrO ₂	
Comparative	Zr ₇₀ Pd ₃₀	150	0.44	0.09	0.09	Au nanoparticles	amorphous
Example 5	Zr ₇₀ Au ₃₀					+ZrO ₂	
Comparative	Pd (reported	150	0.65	0.65	0.65	Pd	crystalline
Example 6	value)					(polycrystalline	,0
•						structure of coarse	
						particles)	
Comparative	Pd (reported	50	0.69	0.69	0.69	Pd	a-ratallina
Example 7	value)	50	0.09	0.09	0.09		crystalline
Example /	value)					(polycrystalline	
						structure of coarse	
						particles)	<u></u>